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Restrictions on the flow of U.S. currency to Cuba inhibited Americans' attendance at a scholarly meeting there. Story on Page 5.

With no campus of its own, the National Technological University reaches students by satellite. Story on Page 16.

Gov. Bill Clinton of Arkansas told education officials last week that they must provide new leaders for public schools. Story on Page 19.

Leaders of community colleges have formed a political action committee to increase their lobbying power. Story on Page 19.

The Luce Foundation will inaugurate a new program of support for new and existing Southeast Asia study centers. Story on Page 29.

Some students are refusing to harm animals as part of laboratory experiments. Story on Page 33.

A university committee has found at least 12 violations of N.C.A.A. rules in the athletic program at Virginia Tech. Story on Page 35.

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88 CENTS VS. A DOLLAR

Woman Professors Pressing to Close Salary Gap; Some Colleges Adjust Pay, Others Face Lawsuits

By LIZ McMILLEN

Earning 88 cents for every dollar made by their male colleagues, woman professors are pushing to close the pay gap—a gap they contend is based on illegal sex bias.

Several institutions, including New Mexico State University, Washington State University, and Washington University in St. Louis, are quietly studying, and in some cases, adjusting their faculty salaries.

In the process, university officials are finding that the number-crunching involved is no breeze. Disagreement can crop up about what constitutes a fair salary review and how to adjust disparities.

In other places, change is not coming quietly.

The Universities of Maryland and Mississippi have both been hit by lawsuits charging "a pattern and practice" of sex discrimination in faculty pay. Both suits ask for back pay for female faculty members.

Sex-bias charges are also pending against the State University of New York at New Paltz, where four faculty members have sued over wage disparities. A decision is expected later this summer.

Faculty salaries, 1986-87

	Men	Women
Professor	$46,070	$40,630
Associate Professor	34,280	31,800
Assistant Professor	28,910	26,160
Instructor	22,180	20,590
Lecturer	26,710	22,970

SOURCE: AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS

Faculty-pay issues could soon go to the U.S. Supreme Court. Women who lost a long-standing case against the Oregon State Board of Higher Education—known as the "Penk Case," after the lead plaintiff, Anna Penk—plan to ask the Court to hear their appeal. A recent Supreme Court ruling in a non-college case may make wage-discrimination cases easier for women to win in the lower courts.

Colleges and universities, especially public institutions, are actually ahead of the nation's businesses in adjusting the pay gap, according to the National Committee on Pay Equity.

About 220 colleges and universities have recently done salary-equity studies, some at the direction of state legislatures, committee officials say. As of this spring, about 100 have made adjustments for either faculty members or clerical workers, and sometimes for both.

Until now, the depressed academic job market has staved off many com-

Continued on Page 14, Column 3

State Leaders Urged to Intensify Colleges' Efforts to Enroll and Graduate More Minority Students

By SCOTT JASCHIK

State leaders must start major new efforts to insure that minority students attend and graduate from college, say two new reports.

"We simply can no longer content ourselves with progress that is episodic, grudging, and vulnerable to quick reversal at the slightest hint of benign indifference," says a report that will be issued this week by the State Higher Education Executive Officers.

That report and one issued last week by SHEEO and the Education Commission of the States contrast the major improvements in the educational status of minority students in the 1960's to the stagnation of recent years.

'The Conscience of the Nation'

"In the decade of the sixties, the conscience of the nation was awakened once again to the disparity between its ideals and reality," the E.C.S. report says. "First reluctantly and then enthusiastically, higher education opened its doors to large numbers of minorities who had been excluded.

"More than midway through the 1980's it is appropriate that we ask the question: How are we doing? Unfortunately the answer must be: Not good enough. Progress toward full participation of minorities in higher education has become distressingly stalled."

Larger Proportion of Enrollment

In addition to noting the altruistic reasons for college and state officials to concern themselves with the problems of minority students, both reports stress that minority-group members will make up a larger and larger proportion of the college-age population in the years ahead.

"If moral concern is not sufficient as an imperative, self-interest alone eventually will dictate, perhaps too late, the high priority these issues deserve," says the SHEEO report.

T. Edward Hollander, chancellor of the

Continued on Page 22, Column 1

A Lengthy Debate Likely on Ways to Split Funds for Campus Facilities

By COLLEEN CORDES

WASHINGTON

Congress seems serious about designing a new federal program to modernize campus research facilities. But a crucial issue remains unresolved: how to split up the pot, whatever its size might be.

The House-passed trade bill authorizes money for campus research facilities, and two other bills are making their way through committees, one in the House and one in the Senate. Whether Congress will come up with a final program this year is problematical, but the debate now going on over how to divide up the money will almost certainly determine the shape of whatever plan ultimately emerges.

At stake are more than mere buildings, or the clamor of individual institutions for their fair share of federal funds.

The ultimate issue is whether the current distribution of federal resources for research best serves the national interest. A

Continued on Page 24, Column 1

MATHEMATICIAN SHORTAGE

"The people to staff universities in the 1990's are not in the pipeline right now. We're not producing enough young scientists to staff our universities down the road. We do not have enough Americans."

Story on Page 11

'In' Box

It cost $13,377 to find a new chancellor for the University of Wisconsin at Madison. Nearly half of that was spent on bed and board for the search committee at a Chicago hotel.

The *Capital Times*, a Madison newspaper, obtained vouchers and hotel receipts for the search, and recently published a breakdown—down to the last dinner.

In fact, the university's foundation kicked in more than $3,000 because committee members spent more than the state limit—$12 apiece—on their dinners.

During the interviews, the newspaper reported, panelists ordered room service seven times, summoning sweet rolls, sandwiches, yogurt, and assorted beverages.

A student member of the panel, Rob Koenig, had a little room left for dessert. He spent $23 for in-room movies.

•

It pays for college administrators to have healthy hearts and lungs.

That's why department chairmen, deans, and vice-presidents attending a seminar at Texas A&M University this week will be run through a battery of stress tests.

Along with sessions on financing and fund raising, the participants can take an EKG exam, have their body fat analyzed, and get their blood tested.

"Most of these folks are new to the administrative scene," says Bryan R. Cole, associate dean of the university's college of education. "They'll be dealing with stress factors they haven't felt before."

That's especially true if the administrators are from Texas, Mr. Cole adds. "We have our share of budgetary problems and role conflicts for administrators."

•

An applicant's spouse should be interviewed, too, when that applicant is being seriously considered for a community-college presidency, a new report says.

The Presidential Team: Perspectives on the Role of the Spouse argues that an interview will make clear what trustees expect of the spouse. The report includes essays by male and female spouses, as well as other experts.

George B. Vaughan, president of Piedmont Virginia Community College and editor of the report, calls on trustees to pay the spouse's way to professional meetings. He also urges the American Association of Community and Junior Colleges to establish a council on spouses.

Bonnie P. McCabe, married to the president of Miami-Dade Community College, offers personal advice to other "charming and gracious" spouses tired of the title. Her essay: "I Don't Have a Bouffant."

The report is available for $12.50 from A.A.C.J.C. Publications, 80 South Early Street, Alexandria, Va. 22304. To order by credit card, call 1-800-336-4776; in Virginia, (703) 823-6966.

PERSONAL & PROFESSIONAL

Fewer and Fewer Americans Take Graduate Work in Mathematics; Peril to Nation's Prosperity Seen

Foreign students flood departments, but many return home after they earn their degrees

By SCOTT HELLER

WASHINGTON

The nation's prosperity could be hampered by the continuing decline in the number of Americans studying mathematics in graduate school, a new study warns.

Graduate enrollments are holding steady in mathematics only because of an influx of foreign-born students, many of whom leave the United States after they receive their degrees, the study indicates. It was conducted for the Conference Board of the Mathematical Sciences, a consortium of 14 professional societies.

"The prognosis for the continuing vitality of mathematics is somewhat bleak," the study says. Increasing numbers of foreign graduate students have already led to some language problems in the classroom and may make America "hostage to foreign policy" in securing bright students from such places as China, it adds.

Members of the committee who prepared the report said it confirmed anecdotal evidence of a shift in graduate populations. But they cautioned that the problem was not too many foreigners, but too few Americans.

In addition, the statistics they gathered painted a similar picture in computer science, economics, and physics, and a grimmer view in engineering.

Worsened in Last 10 Years

"The problem has gotten steadily worse in the past 10 years," said Willard Miller, professor of mathematics at the University of Minnesota and a member of the panel. "Many Americans who are interested in science and technology are leaving college at the bachelor's level to go into industry. They're not going on to do graduate work."

The study collected information from National Science Foundation reports through 1984. The committee supplemented that with information culled from a 1986 survey of 38 graduate departments.

In 1984, the N.S.F. numbers show, more than 40 per cent of graduate students in mathematics were foreign, up from nearly 33 per cent in 1980 and almost 24 per cent in 1977.

The number of Americans studying for graduate degrees in mathematics dropped from 7,910 to 6,710 between 1977 and 1984. During the same period, the number of foreign students nearly doubled, from 2,455 to 4,513.

Indications are that the problem is getting worse. At the leading departments in 1986, 46.2 per cent of first-year graduate students were foreign, up from 22.4 per cent in 1977. In two of the departments all of the students were foreign. In almost one-fourth of the departments, fewer than 30 per cent of the incoming doctoral candidates were American citizens.

Similar trends are evident in the faculty ranks, as well. In 1986, slightly more than 45 per cent of untenured faculty members were foreign, up from 36 per cent the year before and almost 27 per cent in 1977.

A bigger proportion of full professors between ages 40 and 60 are American citizens than those either older or younger, a circumstance that panel members attributed to booming interest in science and mathematics after the Sputnik launch.

Indeed, the panel urged mathematicians to communicate the importance of math education to students today. "We need to persuade young people that this is a field they want to go into," Mr. Miller said.

Panel Raises Questions

The panel speculated that noncompetitive academic salaries, a materialistic society, and interest in computer programming may be diverting top students away from graduate study. It called for further research on questions such as these:

► What has happened to America's best potential mathematicians, as measured by various national high-school exams?

► What is the distribution of foreign graduate students by country of origin? How many foreign citizens have permanent-residency status in the United States?

► What is the situation in statistics departments?

The panel's report notes that expected faculty retirements make the situation especially pressing now. In addition, the re-

Continued on Following Page

Foreign Graduate Students in the Sciences

	1980		1986	
	Number	Per cent of total	Number	Per cent of total
Engineering	17,999	41.8%	24,385	42.4%
Mathematical sciences	3,254	32.9%	4,892	40.9%
Computer sciences	2,066	31.4%	5,362	38.1%
Physical sciences	5,744	25.1%	8,468	31.8%
Agricultural sciences	2,226	22.3%	2,314	25.4%
Social sciences	10,192	18.0%	11,357	22.4%
Biological sciences	4,588	12.1%	6,466	17.1%
Environmental sciences	1,399	12.8%	1,695	14.7%
Health sciences	2,052	8.4%	2,621	11.3%
Psychology	1,210	4.5%	1,230	4.7%

Note: Covers only full-time students. SOURCE: NATIONAL SCIENCE FOUNDATION

Health Problems Afflict Workers in Veterinary Building at U. of Florida

GAINESVILLE, FLA.

Shortly after moving into a new office at the University of Florida's veterinary college, Pamela P. Humphrey's face began to redden and a rash broke out on her hands.

Her colleagues began to complain of headaches and eye irritations that prevented some from wearing their contact lenses. Eventually even Ms. Humphrey, who does not wear such lenses, said her eyes were so red "I looked like I was coming off of a 10-day drunk."

$2.6-Million in Emergency Aid

As more people spoke out, the list of symptoms grew to include fatigue, nausea, dizziness, and mental disorientation.

Last month, the Florida Legislature appropriated $2.6-million in emergency aid to fix ventilation problems that are believed to be causing the health problems at the Veterinary Medical Teaching Hospital.

Part of the money will go toward moving the employees with the most severe complaints. So far, 45 of the building's 392 occupants have been moved to offices and laboratories set up in nearby trailers, and an additional 15 are expected to be moved soon. Anywhere from one-third to three-quarters of the hospital's employees have suffered some symptoms, according to medical reports.

Ms. Humphrey, who supervises the teaching hospital's clinical-pathology unit, says employees both in and out of the building are worried.

"We're concerned that some of these things may be long-lasting," she said. "We'd really like to see everyone the heck out of there."

Although everyone agrees that something in their work environment is causing the complaints, no one knows for sure how serious the health problems are. Some employees have not been affected, while others say they can no longer function in the hospital building.

The university has already spent nearly $1-million trying to correct the problems. Several national consultants were brought in and diagnosed the situation as "tight building syndrome," an affliction typical of buildings constructed in the 1970's.

Because of skyrocketing oil prices, many energy-efficient buildings were constructed with inadequate ventilation, including small windows that did not open. The same health symptoms described at the university's hospital have cropped up in other similarly constructed buildings, the consultants said.

Ventilation Problems Cited

Between 1978 and 1981, the National Institute of Occupational Safety and Health conducted 115 investigations of buildings that were suspected of making their occupants ill. In most of those cases, although the exact number was not available, ventilation problems were believed to be the cause, according to the institute. The num-

Continued on Following Page

Health Problems Hit Fla. Building

Continued from Preceding Page

ber of complaints had tripled since the last three-year period, a fact that investigators attribute to more buildings' being constructed with energy-efficiency in mind.

Actions Taken; Problems Persist

In the past year the University of Florida has built a new roof to stop leaks that had been feeding mold growths, relocated the pathology unit, where most of the complaints had originated, adjusted the air conditioning and heating systems, and hired a practical nurse to monitor health complaints.

Still, the problems persisted.

Last month, workers circulated a petition declaring "a medical emergency" and calling for the immediate evacuation of the sickest workers. The petition read, in part: "No one person has the right to expect other people to stay in a building that is causing health problems to so many individuals. We are intensely loyal to the Veterinary College, but there comes a time when a decision has to be made on whether the cost is too high to pay. Our level of on-the-job performance is slipping both in quantity and quality. We can no longer guarantee a first-rate service to our clients and our students."

With the help of a Florida state representative and the state Board of Regents, they were able to gain the emergency funds to begin work on revamping the building's entire ventilation system. That could take up to two years, according to Arline Dishong, spokeswoman for the university's Health Science Center.

Ms. Humphrey, whose division is operating out of a trailer for the time being, believes the hospital should have been shut down entirely and everyone evacuated.

But Ms. Dishong said none of the consultants who visited the hospital felt the problems were serious enough to warrant a total evacuation.

No Evidence from Consultants

"The situation is serious from the standpoint that none of our administrators want people to continue working in an environment where they'll keep getting sick," she said. "But the various consultants who have studied the building have come up with no evidence that this poses a serious threat to anyone's health over the long term."

—KATHERINE S. MANGAN

Fewer Americans Study Mathematics

Continued from Preceding Page

port urges administrators to "come to grips" with the fact that undergraduates are increasingly resentful of teachers with "accents which are so thick that they are only marginally understandable to students."

The panel did not recommend spoken fluency examinations as a condition for acceptance to graduate school, noting that such tests are difficult to administer and could keep away bright students.

Instead, the report urges that first-year foreign graduate students be hired only to grade papers until they demonstrate spoken fluency. It also calls on mathematics departments to urge "formal instruction" in spoken English, rather than "praying that the students will 'pick it up' " by attending classes, as is done in many places.

That, in turn, means that graduate departments should expect foreign students to meet certain requirements at a slightly slower pace, the report adds.

'A Very Scary Picture'

A 1985 survey of 464 departments, conducted for the Mathematical Association of America, indicated that such changes could lead to staffing problems. It found that more than one-third of all mathematics classes were taught by teaching assistants or part-time instructors.

"The people to staff universities in the 1990's are not in the pipeline right now," said Bettye Anne Case, associate professor of mathematics at Florida State University. "A very scary picture is emerging: We're not producing enough young scientists to staff our universities down the road. We do not have enough Americans."

New Books on Higher Education

It may be necessary to add state tax to the cost of books listed below. Discounts may be available to scholars and to people who order in bulk.

Access to Quality Undergraduate Education in the Two-Year College: A Report to the Southern Regional Education Board by Its Commission for Educational Quality (Southern Regional Education Board, 592 Tenth Street, N.W., Atlanta 30318; 14 pages; $4.50 prepaid).

The Administration of Public Safety in Higher Education, by David Nichols (Charles C. Thomas, Publisher, 2630 South First Street, Springfield, Ill. 62794; 254 pages; $39.75 prepaid). Discusses the hiring of campus security personnel and other aspects of public-safety administration at colleges and universities.

Curriculum Management for Schools, Colleges, Business, by Fenwick W. English (Charles C. Thomas, Publisher, 2600 South First Street, Springfield, Ill. 62794; 306 pages; $44.75 prepaid).

Developing an LD Program: A Guide for Colleges and Universities, by John P. Branson (C.C.I.U. Publications, Chester County Intermediate Unit, 1530 Lincoln Highway, Coatesville, Pa. 19320; 43 pages; $25, plus $2.50 for shipping). Contains guidelines for establishing programs for students with learning-disabilities.

Developing Occupational Programs (New Directions for Community Colleges No. 58), edited by Charles R. Doty (Jossey-Bass Publishers, 433 California Street, San Francisco 94104; 111 pages; $11.95 prepaid). A collection of essays on how community colleges can meet the needs of a changing American work force.

Ethical Dilemmas for Academic Professionals, edited by Stephen L. Payne and Bruce H. Charnov (Charles C. Thomas, Publisher, 2600 South First Street, Springfield, Ill. 62794; 241 pages; $29.75 prepaid).

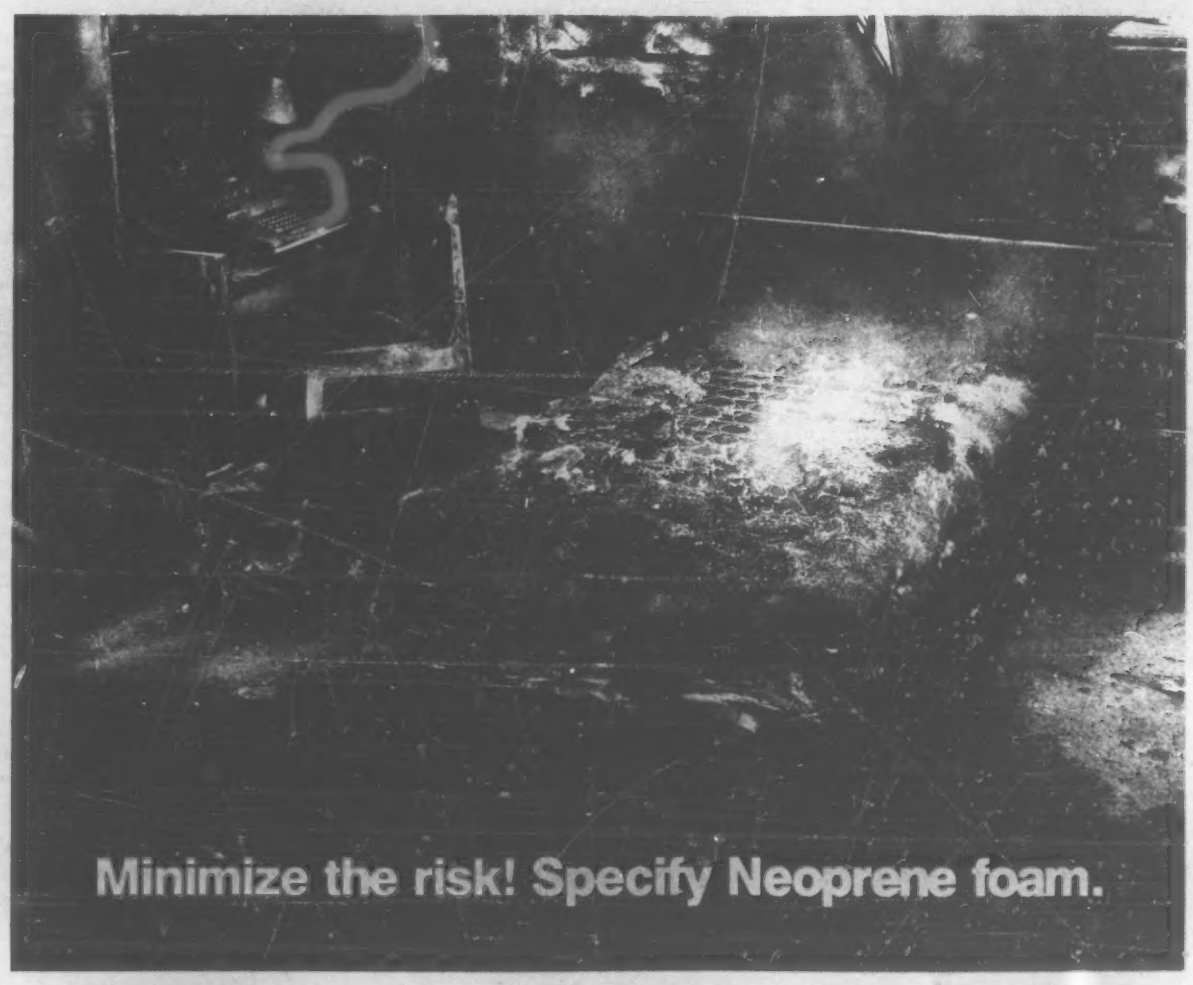
Financing Higher Education: Strategies After Tax Reform (New Directions for Higher Education No. 58), edited by Richard E. Anderson and Joel W. Meyerson (Jossey-Bass Publishers, 433 California Street, San Francisco 94104; 107 pages; $11.95 prepaid). Comprises papers prepared for the Forum for College Financing Alternatives, a research project of the National Center for Postsecondary Governance and Finance; the papers were presented at a conference held in Annapolis, Md., in October 1986.

A Guide to Higher Education for Learning Disabled Students, by John P. Branson (C.C.I.U. Publications, Chester County Intermediate Unit, 1530 Lincoln Highway, Coatesville, Pa. 19320; 204 pages; $20, plus $2.50 for shipping).

National College Databank, fourth edition, edited by Kim R. Kaye (Peterson's Guides, P.O. Box 2123, Princeton, N.J. 08540; 465 pages; $12.95, plus $2.75 for shipping). Presents data grouped to show which colleges and universities share certain characteristics, from unusual majors, for example, to low freshman attrition rates.

A Progress Report and Recommendations on Educational Improvements in the S.R.E.B. States: A Report to the Southern Regional Education Board by Its Commission for Educational Quality (Southern Regional Education Board, 592 Tenth Street, N.W., Atlanta 30318; 45 pages; $6.50 prepaid).

Responding to the Needs of Today's Minority Students (New Directions for Student Services No. 38), edited by Doris J. Wright (Jossey-Bass Publishers, 433 California Street, San Francisco 94104; 117 pages; $11.95 prepaid).



Specially formulated Neoprene foam (left) exceeds other foam cushioning materials (right) in open-flame ignition tests.

A sobering statistic: 43% of fatal, residential fires start in upholstered furniture, mattresses or bedding.* Don't contribute unknowingly to such a tragedy. Specify furnishings that contain specially formulated Neoprene foam, and you could help prevent injuries and property damage.

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IDEAS

By Zoë Ingalls

- **'Job club' aids students seeking work**
- **Dormitory newspaper becomes a poster**

FOR THE SOON-TO-BE or recent college graduate, finding that first job is a time-consuming and often daunting experience. Indeed, Southwestern University's career-development director compares jobhunting to the process of grieving over the loss of a loved one.

"The student's loss has to do with a loss of identity—giving up the identity you've had for the last 16 years and trying to move into the wider world," says E. Anne Matthews, the director.

"There's a certain amount of grief over losing the safe definition of self and struggling with all the questions you have to answer to form a new life for yourself," she says. "A lot of procrastination goes on in jobhunting, as a way of avoiding the reality, and a lot of people going through the grief process will do that to avoid facing the loss."

To help Southwestern students with their search, and incidentally to deal with their "loss," Ms. Matthews last month offered an experimental program she calls a "job club," a support group for recent graduates and for students who will graduate in the next year.

The club is based on techniques developed in the 1970's to help industrial workers who had been laid off, Ms. Matthews says. The approach seemed well suited to her philosophy of emphasizing career counseling over placement in a specific job.

She explains that career-development staff members at small liberal-arts institutions such as Southwestern—where the enrollment is just over 1,000—face different challenges from those of their counterparts at large universities, who are able to attract recruiters from large companies. In general, recruiters do not visit smaller institutions, so Ms. Matthews says she has worked to train students to become good jobhunters—"everything from figuring out a major and career choices, to writing a résumé."

Here's how the job club worked: The participants met twice a week for three hours to discuss their goals and their progress. They also reported on their successes and failures and shared insights and information.

"For someone who is jobhunting, this is their life—they wake, eat, sleep, and dream jobhunting," Ms. Matthews says. "There is a low-level anxiety they feel about not having a job all of the time."

In addition to the group discussions, job-club meetings included brief lectures by Ms. Matthews on such topics as résumé writing, interviewing skills, and business etiquette. The club's members were also encouraged to read two books, *The Job Search Companion,* by Ellen J. Wallach, and *Finding a Job,* by Mason H. Azrin and Victoria B. Besalel.

Last month's experiment was so successful that Ms. Matthews will now use it as a model for a semester-long job club beginning this fall, for students who will graduate in December, and repeating in the spring.

For more information, contact E. Anne Matthews, director, Office of Career Development, Southwestern University, Georgetown, Tex. 78626.

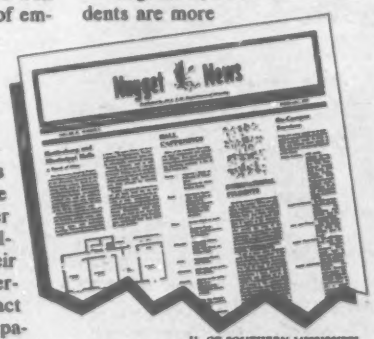
■

IT'S NOT UNCOMMON for a university's housing department to publish an in-house newspaper. In general, the formats range from mimeographed 8½-by-11-inch flyers to tabloid-size newspapers—whatever it takes to deliver the desired message.

At the University of Southern Mississippi, the paper just wasn't being read. So the university's Department of Housing and Residence Life took a new tack—exchanging its four-page tabloid for heavy-duty, poster-size paper suitable for display on bulletin boards.

Three issues of the *Nugget News* later, officials report that they are pleased with the response.

"In general, it seems that residents are more apt to read a poster, placed conspicuously, than they are to read a four-page newspaper," says Ruth C. Garvey, coordinator of residential student development. "One can, for example, read a few articles while waiting for an elevator."



U. OF SOUTHERN MISSISSIPPI

Southern Mississippi publishes news on heavy-duty, poster-size paper.

Recent editions of the *Nugget News* have included articles on flooding in one of the dormitories, exam "survival" skills, and special evening programs slated for each dormitory.

Although the posters are more expensive to produce than the paper, fewer of them are required, so that production costs have remained about the same.

For more information, contact Ruth C. Garvey, coordinator of residential student development, University of Southern Mississippi, Southern Station Box 5064, Hattiesburg, Miss. 39406.

Female Faculty Members Press to Close Salary Gap

Continued from Page 1

plaints. With a job shortage, "women were more willing to put up with salary inequities," says Barbara R. Bergmann, a professor of economics at the University of Maryland at College Park.

But with more jobs—and more women filling them—women are asking why they are paid less than men with the same background and experience. Women are also taking a cue from state and local government workers, who have made considerable salary gains.

Many have become dissatisfied with the slow pace of change since the 1970's, when colleges first studied and raised salaries under pressure from the federal government.

"This issue really needs to come out of the closet," says Margaret C. Lumpkin, a retired professor of education at Oregon State University and one of the lead plaintiffs in the Penk case. "Every year, studies show significant disparities. Everyone pretends that women are second-class citizens and should be paid that way."

Myra Dinnerstein, whose salary was raised by more than $10,000 in a review at the University of Arizona, had no idea she was so far behind.

"I certainly thought I was probably behind, but not that much," says Ms. Dinnerstein, director of the women's studies program and the Southwest Institute for Research on Women. "Even if I had been aware, there was no mechanism to change it."

Big Gap for Full Professors

Nationally, the biggest wage difference is for full professors. In that rank, men earn $46,070, compared to $40,630 for women.

The gap in faculty salaries is actually easier to deal with than inequities in the tenure and promotion process, where discrimination is much more subtle and much harder to prove, administrators and professors agree.

But pinpointing sex as the significant factor behind pay discrepancies is not as easy as it sounds.

Many salary studies involve complicated regression analyses, in which certain variables—such as years of experience, degrees, discipline, and sometimes faculty rank—are held constant to see if there are still differences in the treatment of men and women.

Another less formal approach involves selecting male faculty "counterparts" for comparison against women.

"Running a careful analysis is the single biggest sticking point" for colleges, says Mary W. Gray, an expert on pay equity who has helped 25 institutions conduct salary surveys. Ms. Gray is a professor of mathematics, statistics, and computer sciences at the American University.

Administrators at Washington State University know that sticking point all too well. At the urging of two women's faculty groups, the university is reviewing the salaries of 160 women and minority-group members.

"Just getting through the process and finding all the information is very difficult," says Ronald H. Hopkins, university vice-provost. "The consequences will be difficult, too, if people don't get as much as they think they should."

Women and minority-group members were asked to select a "comparable" white male professor with similar degrees, teaching loads, and publications with whom they could be compared.

DOUGLAS GORALSKI

American U.'s Mary W. Gray: Analyzing salary discrepancies "is the single biggest sticking point" for colleges.

The faculty members submitted their applications, including curricula vitae for themselves and their "comparables," to their deans, who made recommendations about raises.

A few faculty members in humanities disciplines wanted to be compared to economics and marketing professors, who are typically higher paid—which is not what administrators anticipated. "Our intent was to examine discrimination as a factor, not market forces," says Mr. Hopkins.

The university opted for the "comparable" method because its officials thought it would be easier for people to understand. But it has also produced its own set of troubles.

Although most male comparables were from the same department, some fields, such as nursing, have very few men. In those cases, the university tried to find men in similar disciplines for comparisons.

A few male professors voiced concern about the reviews' invading their privacy. Other faculty members declined to participate in a process they felt was "too adversarial," according to Susan Armitage, a member of the university's Association for Faculty Women.

Nevertheless, people seem relatively pleased so far. The study "was exploratory to see if we had a problem and what we could do," says Mr. Hopkins. "We found one, and we think we're doing something positive."

Review at New Mexico State U.

At New Mexico State University, now reviewing the salaries of 482 faculty members, professors and administrators have differed over whether pay gaps are due to sex or some other factor.

Officials hope to avoid the problem this year by trying to eliminate all vestiges of sex bias from their salary analysis. That involves looking first at whether there is built-in sex bias in faculty ranks.

"Some people feel women are in lower ranks and therefore have lower salaries, when in fact they belong in higher ranks," based on their qualifications, explains Miriam A. Meyer, coordinator of institutional studies.

"Before we do the salary study, we have to make sure there is no gender discrimination in the ranks, otherwise that would skew the whole salary picture."

Differences of opinion about whether sex is a factor in pay differences have arisen in significant court cases, as well.

In *Penk* v. *Oregon State Board of Higher Education,* lawyers collected some 25,000 pages of documents, claiming that an average $2,000 gap between men and women was evidence of discrimination. The case represents 1,000 women in the state.

The U.S. Court of Appeals for the Ninth Circuit ruled that while statistics might show disparities, the plaintiffs had not proved deliberate discrimination. The women plan to ask the Supreme Court to hear their appeal.

Deadlock in Colorado

Until last year, faculty members and administrators at the University of Colorado were deadlocked over the proper procedures for evaluating salaries. A group of women threatened to file a class-action lawsuit.

The university wanted to review only the most extreme cases of inequities, while woman faculty members urged reviews of all women and minority-group members.

The two sides eventually agreed on a "counterpart" method for all faculty members. Similar to the Washington State approach, female professors were compared to men with comparable records in teaching, research, and service.

Some $397,000 in raises went to 132 professors, most of them in the $4,000 to $5,000 range.

The University of Maryland at College Park has completed several pay studies and increased women's salaries, but faculty plaintiffs claim the raises were not enough and should have been given retroactively. Ten women have sued on behalf of all tenured female professors.

A lawyer for the women says the wage gap has varied from year to year, but ranges between $1,000 to $1,700 at all faculty ranks.

"The university has made some efforts, but the women felt the commitment wasn't there, the resources weren't there, and the process just wasn't adequate," says Wendy L. Kahn, who represents the plaintiffs.

A lawyer for the university disagrees, saying it has been in the "forefront" of pay-equity issues.

Savings in the Long Run

Ms. Gray and other experts say internal pay-equity reviews can actually save institutions money in the long run, even if salaries are ultimately boosted.

For one, studies can help colleges stay out of court, where women have a better chance of winning pay-discrimination lawsuits than they do other cases, according to a new book, *Academics in Court: The Consequences of Faculty Discrimination Litigation.*

A Supreme Court ruling last year may give woman professors an even better chance of winning, some legal observers say.

The Court's decision in *Bazemore* v. *Friday* effectively shifted the burden of proof in wage-discrimination cases to employers, who must demonstrate that there are reasons besides discrimination for pay disparities. The Court also said it is not enough to give equal raises—employers may also be forced to equalize salaries, if discrimination is proved.

Warns Ms. Gray: "Colleges should not wait to be sued. In court, there will be too many hard feelings and too much rubbing of salt on wounds."

FACT–FILE

Earned Degrees Conferred in 1984-85 by U.S. Colleges and Universities

Public institutions	Bachelor's degrees			Master's degrees			Doctor's degrees		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture, natural resources	12,083	5,392	17,475	2,693	1,025	3,718	1,024	171	1,195
Architecture, environmental design	4,546	2,362	6,908	1,462	756	2,218	39	14	53
Area studies	507	755	1,262	248	207	455	37	30	67
Business, management	82,826	68,609	151,435	18,585	8,585	27,170	495	100	595
Communications	11,951	17,447	29,398	855	1,133	1,988	105	64	169
Communications technologies	489	488	977	6	21	27	2	0	2
Computer, information sciences	16,205	9,329	25,534	2,707	1,086	3,793	135	17	152
Education	17,121	51,168	68,289	15,739	40,501	56,240	2,564	2,735	5,299
Engineering	48,901	7,980	56,881	12,105	1,370	13,475	1,885	108	1,993
Engineering technologies	12,570	1,174	13,744	476	55	531	8	1	9
Foreign languages	1,514	4,164	5,678	390	799	1,189	106	138	244
Health sciences	6,529	34,388	40,917	2,272	8,424	10,696	421	401	822
Home economics	715	12,388	13,103	186	1,623	1,809	69	185	254
Law	261	402	663	229	59	288	44	15	59
Letters	7,106	13,509	20,615	1,606	2,983	4,589	408	435	843
Liberal/general studies	6,522	7,066	13,588	204	360	564	12	8	20
Library science	20	148	168	541	2,298	2,839	28	29	57
Life sciences	12,260	11,058	23,318	2,063	1,770	3,833	1,724	782	2,506
Mathematics	5,306	4,335	9,641	1,443	802	2,245	383	69	452
Military science	269	26	295	118	1	119	0	0	0
Parks and recreation	1,506	2,501	4,007	209	267	476	22	13	35
Philosophy and religion	1,170	617	1,787	213	95	308	108	26	134
Physical sciences	11,515	4,053	15,568	3,293	982	4,275	1,554	379	2,333
Protective services	5,946	3,858	9,804	439	257	696	20	6	26
Psychology	7,975	16,718	24,693	1,470	2,424	3,894	826	699	1,525
Public affairs, services	2,570	6,162	8,732	3,344	6,224	9,568	85	86	171
Social sciences	30,918	23,300	54,218	3,844	2,405	6,249	1,187	535	1,722
Theology	2	1	3	0	0	0	0	0	0
Visual and performing arts	8,660	13,869	22,529	2,259	2,877	5,136	245	177	422
Multi/interdisciplinary studies	5,525	5,491	11,016	796	817	1,613	114	64	178
All fields	323,488	326,758	652,246	79,794	90,206	170,000	14,050	7,287	21,337

Private institutions	Bachelor's degrees			Master's degrees			Doctor's degrees		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture, natural resources	394	238	632	153	57	210	12	6	18
Architecture, environmental design	1,473	944	2,417	686	371	1,057	27	9	36
Area studies	592	1,013	1,605	216	208	424	49	21	70
Business, management	45,206	36,710	81,916	28,039	12,318	40,357	223	48	271
Communications	4,367	6,593	10,960	592	880	1,472	33	26	59
Communications technologies	431	317	748	123	59	182	3	1	4
Computer, information sciences	8,374	4,970	13,344	2,357	951	3,308	88	8	96
Education	4,143	15,729	19,872	5,206	14,691	19,897	855	997	1,852
Engineering	17,058	3,215	20,273	6,579	872	7,451	1,129	99	1,228
Engineering technologies	4,924	283	5,207	89	11	100	0	0	0
Foreign languages	1,136	3,140	4,276	169	366	535	78	115	193
Health sciences	3,257	20,339	23,596	1,863	4,824	6,687	144	233	377
Home economics	301	2,151	2,452	93	481	574	9	13	22
Law	188	306	494	1,148	360	1,508	44	2	46
Letters	4,557	8,919	13,476	459	887	1,346	164	232	396
Liberal/general studies	2,049	3,554	5,603	245	371	616	16	17	33
Library science	6	28	34	217	837	1,054	11	19	30
Life sciences	7,804	7,323	15,127	584	642	1,226	583	343	926
Mathematics	2,858	2,647	5,505	431	206	637	207	40	247
Military science	4	0	4	0	0	0	0	0	0
Parks and recreation	233	353	586	32	36	68	1	0	1
Philosophy and religion	3,074	1,539	4,613	488	371	859	269	65	334
Physical sciences	5,580	2,584	8,164	1,159	362	1,521	897	173	1,070
Protective services	1,748	958	2,706	411	128	539	7	0	7
Psychology	4,719	10,399	15,118	1,574	2,940	4,514	666	717	1,383
Public affairs, services	2,065	3,041	5,106	2,594	3,883	6,477	128	132	260
Social sciences	20,254	16,989	37,243	2,556	1,575	4,131	746	383	1,129
Theology	4,401	1,635	6,036	2,846	1,506	4,352	1,036	104	1,140
Visual and performing arts	5,846	9,561	15,407	1,638	1,940	3,578	162	109	271
Multi/interdisciplinary studies	1,998	2,713	4,711	1,049	522	1,571	63	44	107
All fields	159,040	168,191	327,231	63,596	52,655	116,251	7,650	3,956	11,606

All institutions	Bachelor's degrees			Master's degrees			Doctor's degrees		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture, natural resources	12,477	5,630	18,107	2,846	1,082	3,928	1,036	177	1,213
Architecture, environmental design	6,019	3,306	9,325	2,148	1,127	3,275	66	23	89
Area studies	1,099	1,768	2,867	464	415	879	86	51	137
Business, management	128,032	105,319	233,351	46,624	20,903	67,527	718	148	866
Communications	16,318	24,040	40,358	1,447	2,013	3,460	138	90	228
Communications technologies	920	805	1,725	129	80	209	5	1	6
Computer, information sciences	24,579	14,299	38,878	5,064	2,037	7,101	223	25	248
Education	21,264	66,897	88,161	20,945	55,192	76,137	3,419	3,732	7,151
Engineering	65,959	11,195	77,154	18,684	2,242	20,926	3,014	207	3,221
Engineering technologies	17,494	1,457	18,951	565	66	631	8	1	9
Foreign languages	2,650	7,304	9,954	559	1,165	1,724	184	253	437
Health sciences	9,786	54,727	64,513	4,135	13,248	17,383	565	634	1,199
Home economics	1,016	14,539	15,555	279	2,104	2,383	78	198	276
Law	449	708	1,157	1,377	419	1,796	88	17	105
Letters	11,663	22,428	34,091	2,064	3,870	5,934	572	667	1,239
Liberal/general studies	8,571	10,620	19,191	449	731	1,180	28	25	53
Library science	26	176	202	758	3,135	3,893	39	48	87
Life sciences	20,064	18,381	38,445	2,647	2,412	5,059	2,307	1,125	3,432
Mathematics	8,164	6,982	15,146	1,874	1,008	2,882	590	109	699
Military science	273	26	299	118	1	119	0	0	0
Parks and recreation	1,739	2,854	4,593	241	303	544	23	13	36
Philosophy and religion	4,244	2,156	6,400	701	466	1,167	377	91	468
Physical sciences	17,095	6,637	23,732	4,452	1,344	5,796	2,851	552	3,403
Protective services	7,694	4,816	12,510	850	385	1,235	27	6	33
Psychology	12,694	27,117	39,811	3,044	5,364	8,408	1,492	1,416	2,908
Public affairs, services	4,635	9,203	13,838	5,938	10,107	16,045	213	218	431
Social sciences	51,172	40,289	91,461	6,400	3,980	10,380	1,933	918	2,851
Theology	4,403	1,636	6,039	2,846	1,506	4,352	1,036	104	1,140
Visual and performing arts	14,506	23,430	37,936	3,897	4,817	8,714	407	286	693
Multi/interdisciplinary studies	7,523	8,204	15,727	1,845	1,339	3,184	177	108	285
All fields	482,528	496,949	979,477	143,390	142,861	286,251	21,700	11,243	32,943

SOURCE: U.S. DEPARTMENT OF EDUCATION CENTER FOR STATISTICS

Anti-Vivisectionist Students Refuse to Harm Animals in Classes, Labs

Continued from Preceding Page

pharmacology and toxicology at the university, says some laboratory classes can be conducted only by using live animals.

"If there are no alternatives, the best thing we can do is to go on using animals," Mr. Giri says. In some courses, he says, anti-vivisectionists have been offered options, such as using tissue cultures or computer simulations.

When no options are available and a student refuses to perform assigned laboratory work, Mr. Giri says, "if that lab is one of the requirements and he won't participate, he should flunk."

Flunking is nearly what happened to two veterinary students at the University of Pennsylvania. Gloria Binkowski and Eric Dunayer refused to perform surgery on live dogs last fall and found themselves in a running battle with their professors.

Suggestions Rejected, They Say

"We didn't want to take healthy animals and do surgery on them that they didn't need," Ms. Binkowski says. "We didn't want to do anything that wasn't in the best interest of the animal."

Ms. Binkowski says she and Mr. Dunayer suggested several alternatives, including performing the operations on cadavers or on animals that were terminally ill. Their suggestions were rejected, they say, so they chose not to attend the sessions where live animals were used and were given grades of "incomplete."

"We didn't see the animals as disposable tools that we could use and then throw away," Ms. Binkowski says.

She and Mr. Dunayer say they spoke to their professors again and were offered the option of operating on dogs and killing them immediately afterwards, without making the animals recover between operations. "So instead of using two healthy animals we would kill four healthy animals," Ms. Binkowski says. "We didn't accept that alternative and we were failed for the course. A week later we filed a lawsuit."

University officials disagree with Ms. Binkowski's account. According to Donald Abt, the associate dean of veterinary medicine, Ms. Binkowski and Mr. Dunayer originally said they would operate only on animals needing each particular operation. Such animals, says Dr. Abt would be much harder for the university to obtain than a terminally ill animal dying of any natural cause. He also says the lawsuit was filed even before the students' grades were official.

The case was settled out of court. The university allowed Ms. Binkowski and Mr. Dunayer to complete the course by operating on terminally ill animals.

'Complex, Important Issue'

Dr. Abt says the students first requested animals that were going to die within days, but eventually agreed that any animal that would die within six months could be used. "It was very clear that both sides worked very hard to get a mutually acceptable compromise," he says.

The students finished the course and "did well," Dr. Abt says. "They and the faculty worked very hard and did an excellent job of finishing the course," he adds. "This is a complex issue and a very important issue in higher education."

Mike Kapis, who is earning his master's degree in zoology at San Jose State University, says animal research is not as valid, cost-effective, or expedient as other methods of study.

Mr. Kapis, founder of Alternatives to Animals, a year-old, California-based group, says it is wrong to kill to study life.

"Nothing dies on a computer," Mr. Winterfield says. "But frogs die. Rabbits die. Dogs and cats die."

Mr. Winterfield is an animal-rights convert. "I loved dissections and vivisections," he says. "I found the animal-rights people ridiculous."

Now, he says, the use of alternatives can bridge the gap between scientists and animal-rights activists. "The only way we're going to get anywhere is to work together."

Adds Nedim Buyukmihci, president of the Association of Veterinarians for Animal Rights and a professor of veterinary surgery at the University of California at Davis: "I'm hoping that curricula will change so no animal will be killed in order to teach students anything."

He says faculty attitudes are changing "very slowly with tremendous resistance and hysteria."

"Whenever students want to discuss alternatives," says Dr. Buyukmihci, "instead of discussing it intelligently, professors say, 'What do you want to do? Learn surgery on a squash?' "

'What's the Alternative?'

But Mr. Terwilliger of the medical-colleges association says that working with computers "is not the same as working in the guts and goo."

"There's no doubt about the importance of animal use in medical research," he adds. "What's the alternative? Does it mean humans should die as a result?"

Mr. Terwilliger says the association sent letters to medical colleges and teaching hospitals last spring suggesting that institutions clearly state laboratory policies to students as early in their educational careers as possible.

Some students who oppose vivisection in the classroom would prefer not to be called animal-rights activists. They say fringe groups have given the movement a bad name, and many medical and veterinary students fear they may suffer professionally if their colleagues associate them with fringe groups' activities.

"The Animal Liberation Front are jerks," says Mr. Winterfield, who is executive director of Alternatives to Animals. Because the front has been associated with releasing animals and burning buildings, it gives the whole movement a bad image, he says.

Many students believe harming animals is wrong, he says, but they are afraid they'll be labeled as activists. "They lose their jobs," he says. "They don't get into the right symposia or get the right connections and the right networking."

Mr. Francione, the Pennsylvania law professor, says the number of animal-rights activists is increasing because students are being advised that if they have conflicts they can call animal-rights groups or lawyers.

"On almost every campus there are groups of students forming," Mr. Francione says, "and those students are not only fighting the exploitation of animals on campus, but they are supporting each other."